# Exploring High School Teachers' Attitudes and Practices Toward Group Learning: A Case Study in Slovenia

### Abstract

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### Keywords

Group Learning,, Teacher Attitudes, Educational Practices, High School Education, Slovenia

## Introduction

### Instructional methods in modern education

### In the evolving landscape of modern education, instructional methods have undergone significant transformations to meet the diverse needs of students (Sukackė et al., 2022). Modern methods have shown the potential to be more effective, promoting deeper understanding, critical thinking, and active engagement among learners.

### Traditional lecture-based approaches, while still prevalent, are increasingly supplemented or replaced by more interactive and student-centered strategies. These include collaborative and experiential learning, where students work together to solve problems, complete projects, and engage in discussions. This approach not only enhances academic performance but also builds essential life skills such as teamwork, communication, and adaptability.

### The integration of technology has further revolutionized instructional methods. Digital tools and platforms enable personalized learning experiences, facilitate access to a wealth of information, and provide innovative ways to engage students. Teachers are now blending traditional teaching with digital resources, creating a more dynamic and inclusive learning environment.

### Additionally, various instructional methods are being utilized to cater to different learning needs. These include video-recorded instruction, one-on-one tutoring, small and large group studies, and computer-based tutoring. Other methods like flipped classrooms, where students review materials at home and engage in hands-on activities in class, and project-based learning, where students gain knowledge by working on extended projects, are also gaining traction.

### Moreover, modern instructional methods emphasize the importance of differentiated instruction. Recognizing that students have varied learning styles and paces, educators are tailoring their approaches to accommodate individual needs. This personalization helps to ensure that all students, regardless of their abilities or backgrounds, have equitable opportunities to succeed.

### The role, benefits, and challenges to group learning

Group learning plays a crucial role in modern educational environments by fostering collaboration and enhancing critical thinking skills. By working together, students can pool their diverse perspectives and expertise, which often leads to more innovative solutions and deeper understanding of the subject matter. The interactive nature of group learning promotes active engagement, as students are encouraged to articulate their ideas, question assumptions, and provide feedback to peers.

One significant benefit of group learning is its ability to develop essential social skills such as communication, teamwork, and conflict resolution. These skills are vital for success in both academic and professional settings. Furthermore, group learning can improve students' motivation and accountability, as they often feel a stronger sense of responsibility to contribute to their group's success.

However, group learning also presents challenges. Managing group dynamics can be difficult, particularly when there are disparities in participation or conflicts among group members. Additionally, some students may feel anxious or reluctant to participate in group settings, which can hinder their learning experience. Teachers must carefully design and facilitate group activities to ensure that all students are engaged and that the learning objectives are met. Despite these challenges, when implemented effectively, group learning can significantly enhance the educational experience and prepare students for collaborative work in their future careers.

Posebej matematika!!!!

### Context of Slovenian high schools

Slovenian high schools are characterized by a structured curriculum that emphasizes both academic excellence and the holistic development of students. Education in Slovenia is highly valued, with a strong focus on fostering critical thinking and lifelong learning skills. The educational system encourages innovative teaching practices, including the use of group learning to enhance student engagement and collaboration.

Class sizes in Slovenian high schools are typically moderate, allowing for more personalized attention from teachers. The integration of group learning methods has been gaining traction, supported by national educational policies that promote interactive and student-centered learning approaches. However, challenges such as varying levels of teacher training and resource availability can impact the consistent implementation of these methods across different schools.

### Purpose and significance of the study

The purpose of this study is to evaluate high school teachers' of mathematics attitudes toward group learning, examining how frequently it is used in their classrooms, their perceptions of its effectiveness, and the potential factors that influence these attitudes. Understanding teachers' perspectives is crucial for identifying both the benefits and challenges associated with group learning. This study aims to provide valuable insights that can inform educational practices and policies, ultimately enhancing the implementation of group learning strategies. By exploring these dynamics within the context of Slovenian high schools, the research seeks to contribute to the broader discourse on effective instructional methods and promote more collaborative and engaging learning environments.

## Methods

### Study design

Causal non-experimental mixed methods approach, quantitative survey, and qualitative questions for deeper insights.

Primary objective--- Hypothesis

### Population, sample size, sampling method, participants

multi-stage stratified sampling technique. This method involved selecting a representative cohort of schools followed by a random sampling of mathematics teachers within those schools. The sampling procedure aimed to ensure a broad representation across different regions and school types, including both public and private institutions.

Koliko učiteljev, Koliko M, Koliko Z, na kaksni soli,

### Research instrument

Demographics -> gender, age, years of teaching experience (0-5, 6-10, …), school type (public/private), location (region).

Attitudes towards group learning (Likert 1-5)

Usage of group learning (Likert 1-5) How often (daily, weekly, monthly, rarely, never),

what types (peer discussion, tandem, projects,…)

Perceived effectiveness (1-5 Likert) Improving academic achievemtn, enhancing social skills, increasing engagement, promoting critical thinking

Barriers: What are main barriers (multiple choice; lack of time to prepare activities, difficult to manage, curriculum constraints, resources, student resistance, lack of training or support, other)

Open ended: Can you share any succeses-

### Ethical Considerations

All participants provided informed consent. Participation was strictly voluntary, and no financial incentives were offered. The study strictly adhered to the ethical standards laid out in the 1964 Declaration of Helsinki, complied with the European General Data Protection Regulation (GDPR UE 2016/67), and followed the European Code of Conduct for Research Integrity. These frameworks ensured the protection of participant data and the integrity of research practices.

### Data analysis

Data analysis was conducted using the *Python* programming language (version 3.12.4). The *pandas* library (version 2.2.2) was utilized for data manipulation and cleaning, while the *scipy* library (version 1.14.0) was used to perform chi-squared tests.

## Results

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Deskriptivno

t-test/anova razlike v odnosu od demografskih skupin

Correlacija med frekvenco uporabe in efektivnostjo (perceived)

Regresija Predikcija faktorjev, ki vplivajo na efektivnost (perceived)

## Discussion

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## Limitations and future directions

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## References